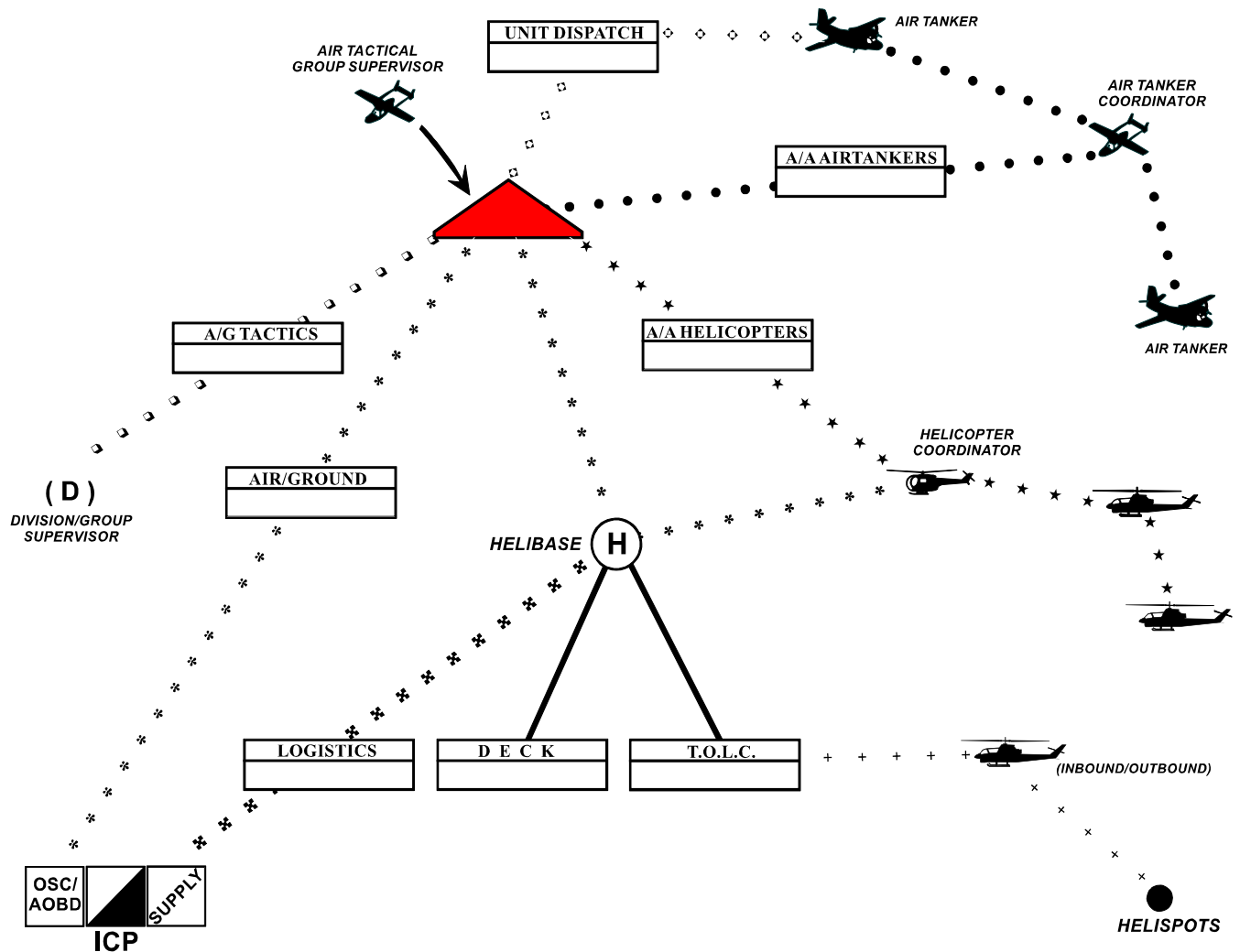


SUPPLEMENT NUMBER 2

GREAT BASIN AVIATION COMMUNICATIONS PLAN

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GREAT BASIN **AVIATION COMMUNICATIONS PLAN** *2001*

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GREAT BASIN AVIATION COMMUNICATIONS PLAN

CHAPTER 1 - INTRODUCTION

- I. Objectives.** The objectives of the Great Basin Aviation Communications Plan (GBACP) are to:
- Provide interagency policy and procedures for all Great Basin fire aircraft communications.
 - Provide a guide for aviation and dispatch personnel on aviation communications procedures.
 - Define and standardize Great Basin interagency aviation frequency guidelines.
 - Promote aviation safety by outlining Great Basin interagency aviation communication policies.
 - Provide a framework within which Great Basin Zones and local units can provide supplemental aviation communications information to the National Aviation Communications Guide.
- II. Scope.** The standards and procedures contained in this GBACP apply to Great Basin interagency aviation operations conducted by participating agencies.
- III. Authority.** The aviation manuals of participating agencies and the Great Basin Cooperative Agreement contain the authority to publish this plan.
- IV. Organization.** The chapters of the plan are organized to assist participators and users in identifying the standards and operational procedures for aviation communications. This GBACP should be used as an appendix to Areas, Regions, States, and local units specific aviation procedures.
- V. Publication.** The member agencies jointly sponsor this publication through the Great Basin Coordinating Group as a supplement to the Great Basin Mobilization Guide. Separate copies are available from unit aviation managers.
- VI. Review and Revision.** Users are encouraged to recommend changes to this document through their respective aviation program managers and Coordination Centers. The Great Basin Aviation Committee will initiate and implement an annual review of the GBACP with appropriate agency aviation, dispatch/coordination, and pilot representatives. Any changes to the plan will be announced and made available to users through agency distribution systems.
- VII. Ordering and Distribution.** The GBACP is available from agency and unit aviation managers within the Great Basin.

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CHAPTER 2 - PREPLANNING, RESPONSIBILITIES, REQUIREMENTS, AND OPERATIONS

I. Preplanning.

- A. **Local Units.** Annually by January 31, each unit will provide the Great Basin Coordination Centers with verification or changes of any radio capabilities or frequency changes.
- B. **Coordination Centers.** Annually by February 15, the Coordination Centers will review and amend as necessary both the Great Basin and Zone Frequency Plans.
- C. **Zone Frequency Plans.** The Coordination Centers are responsible for providing a supplemental Frequency Plan for each Zone (Southern Idaho, Nevada, Utah/NW Wyoming). The Zone Frequency Plan shall consist of a chart with assigned frequencies, map(s) depicting base stations and repeaters, and any information on frequency assignment and use that is supplemental to the Great Basin Frequency Plan. See Appendix B.

II. Responsibilities.

- A. **National Incident Radio System Cache (NIRSC).** The overall responsibility for assignment, coordination and control of frequencies is the responsibility of NIRSC at NIFC in Boise, ID.
- B. **Great Basin Frequency Coordinator.** The Great Basin Frequency Coordinator is responsible for coordinating with NIRSC at NIFC, local units, and GACCs on assignment, coordination and control of frequencies
- C. **Dispatch Organization.** The dispatch organization at the GACC and local levels works with Great Basin Frequency Coordinator and NIRSC at NIFC on frequency management and distribution.
- D. **Aerial Supervisors.** All aerial supervisors (Air Tactical Group Supervisors, Lead Plane Pilots, Helicopter Managers, and Smoke Jumper Spotters) must work within the frequency assignment plan. Except for emergencies, aerial supervisors may not deviate from pre-assigned frequencies, but may request additional or alternative frequencies.

Continuous monitoring of assigned Air Tactics and Air Guard frequencies, while in close proximity to or over the incident, is required. Communications with the Incident Commander, or his/her designee, will be on the assigned air-to-ground tactical net.

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At the start of the contract period, air attack base and helicopter base supervisors shall train each pilot in:

- Operation of the agency radio(s) installed in the contract aircraft.
- Incident Command System (ICS) and agency air operations terminology.
- Use of the Wild land Firefighters Frequency Guide.
- Local agency policies on aircraft communications.

It is important to give each pilot enough operational training and a copy of this Great Basin Aviation Communications Plan to assure effective in-flight communications within the scope of an interagency, national program, regardless of jurisdiction.

- F. Pilots.** Pilots will monitor both the Air Guard frequency and those frequencies assigned at the time of dispatch or time of divert. In the event a frequency problem or question arises, the pilot should contact controlling aircraft or appropriate dispatch for resolution.

III. Requirements and Operational Guidelines. Good communications is essential to the accomplishment of safe, effective aerial firefighting missions. General requirements and guidelines must be followed to ensure proper frequency management and coordination.

- A. Radio Discipline and Frequency Management.** Good radio discipline and proper frequency management are required to maintain effective radio communications and safety.

- 1. Messages.** All messages must be brief and to the point so others can access frequencies.
- 2. Frequencies.** When changing to a new frequency, personnel must listen for any communications in progress before transmitting.

It is particularly important to keep the Air-to-Air frequency open and available to pilots.

After using other frequencies, personnel should return to the frequency assigned to their primary function.

- B. Terminology.** Common fire and aviation terminology should be used whenever appropriate. If operating on an ICS incident, use standard ICS terminology.

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C. Operating Practices.

- All aircraft dispatch will be accomplished by personnel trained in aviation communications and procedures. All pilots and aerial supervisors must be thoroughly familiar with aviation communications requirements and procedures. This is a responsibility of aviation management.
- Dispatch Centers shall provide all aircraft with the information required in Block 11 of the Resource Order. This includes:
 - Latitude/Longitude
 - Geographic Location
 - At least one VOR (must match lat/long)
 - Air-Air contact and frequency
 - Primary air-ground contact and frequency (this is always the Ordering Unit Dispatch and their frequency as the initial contact)
 - Incident air-ground contact and frequency
 - Other Aircraft Assigned, Type and Call Numbers
 - Known Hazards (to include known physical hazards, wires, etc.), MTRs/SUA, civil {e.g., Class B Airspace} traffic, media traffic, etc.)
 - Notice To Airmen (NOTAM) in effect for incident?
 - UTM - if appropriate
- All incidents with aerial firefighting resources shall have an individual responsible for radio communications. The first aircraft over the incident will be the aviation communications controlling aircraft and will remain so until a positive hand off is made to another aircraft.
- Voice communications over aviation frequencies will be held to the minimum necessary and will adhere to good frequency discipline and management.
- All aircraft participating in any aerial firefighting mission shall have an air guard capability and be provided with a primary air-air frequency, an air-to-dispatch frequency, and an air-ground frequency. See aircraft avionics requirements in Chapter 4.
- All non-local-unit aircraft inbound to an incident will first contact the receiving unit dispatch center on the frequency identified for the Dispatch Center in Block 11 of the Resource Order.

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- All assigned aircraft will report to the controlling aircraft or in the blind on the identified air-air frequency when they are three minutes or more from the incident. If radio contact is not established with other known or reported aircraft, the approaching aircraft will remain clear of the incident until radio contact is made and positions of participating aircraft clearly identified. Note that Air Guard may be used for initial call, but only used to establish another operating frequency.
 - If communications with all aircraft cannot be established at a fire, the controlling aircraft or unit dispatch shall remove all assigned aircraft to a safe orbit or area until radio contact can be established.
 - Aircraft on initial attack with no other aircraft assigned will report to the Incident Commander or other assigned ground contact on the frequency identified in Block 11 of the Resource Order.
- D. In-flight Emergencies.** If the pilot-in-command of any aircraft declares an emergency on any frequency, all other radio communications will cease until the pilot declares his/her intentions, receives appropriate direction and/or takes necessary action.
- E. Use of Air Guard To Establish Contact.** If an aircraft is unable to establish communications using a specified frequency, the aircraft should use air guard to initiate contact. An authorized frequency should be agreed upon by both aircraft for further communications.
- F. Special Pilot Communications Required When Operating Within Special-Use Airspace (SUA) (MOAs, Restricted Areas, etc.).** If dispatched to an incident within Special-Use Airspace, unit dispatch will make appropriate calls to initiate an immediate deconfliction of the airspace and, if appropriate, a Temporary Flight Restriction (TFR). All firefighting pilots are responsible for contacting the Controlling Agency for SUA as identified on aeronautical sectionals or in Zone Frequency Supplements prior to entry into SUA. Specific communications procedures vary and should be both pre-briefed and noted on the Resource Order under “Hazards.”

(Note: the Dispatch Center will also determine if MTRs are involved whether they are “hot” or inactive. This information will be relayed to the pilot as soon as possible).

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- G. News Media or Law Enforcement Aircraft.** Under FAR 91.137(a)(2) aircraft carrying accredited news representatives may enter the area, if prior to entry, a flight plan is filed with the appropriate FAA or Air Traffic Control (ATC) facility specified in the NOTAM.

Incident personnel realize the media has a service to provide. The incident will accommodate media's need to fly into incident air space if the guidelines for access are followed.

Dispatch should give media aircraft the following information:

- Incident VHF-AM (not VHF-FM) radio frequency(s).
- Who to contact before entering the incident airspace.
- Initial altitude assignment as assigned by the incident Air Attack. This may not be available but should not be lower than the TFRs highest altitude.
- Dispatch will notify Incident Commander / ATGS.

The media or law enforcement aircraft must contact one of the following, On the designated frequency, in this priority order:

1. Air Tactical Group Supervisor
2. Lead Plane Pilot
3. Incident Commander or Designee

Temporarily restricted airspace may not be entered by media or law enforcement within the operating altitudes specified on the NOTAM until contact is established and permission given. *If radio contact is not established, permission is **NOT** granted to enter the area.* Bottom line is, there will be communications with media aircraft in incident airspace, or the media will not be allowed to fly into the air space. Dispatch must be contacted to reschedule the flight.

- H. Air Tanker Operations In Congested Areas.** For dropping retardants in congested areas, there are requirements that positive communications be established as outlined below (note that these are standard safety practice for all retardant dropping operations.)

USDA-USFS GUIDANCE ON EXEMPTION NO. 392 FROM FAR 91.119, Minimum Safe Altitudes.

Deviations Permitted: Operation of fixed-wing aircraft at altitudes below 500 feet above the surface and closer than 500 feet to persons, vehicles, vessels, and structures.

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Limitations: Deviation permitted is limited to reconnaissance, aerial surveys, cargo dropping, and air application of fire retardants conducted by or for the Forest Service, U.S. Department of Agriculture, subject to the following provisions:

(Only requirements applicable to communications are quoted; see Interagency Airspace Coordination Guide for further information on requirements for dropping retardant in congested areas.)

Aerial application of fire retardants in congested areas shall be avoided in normal situations. Where such operations are considered necessary, owing to special circumstances, they may be authorized subject to these special limitations.

No air tanker operation shall be conducted unless and until positive communication has been established between the Forest Service Air Tanker Coordinator, air tanker pilot(s), and the official directly supervising fire suppression for the responsible fire suppression agency or his designee.”

IV. Flight-Following. Flight following during fire operations for both point-to-point and special-use missions will be in compliance with both the National and the Great Basin Mobilization Guides. Flight following procedures are outlined in Section 24 of these Guides.

V. Safety.

A. Aviation Communications “Watch Out” Situations. When one or more of the following communications situations exists, air operations safety and effectiveness are in jeopardy. Address the situation(s) before continuing operations.

1. Poor or intermittent communications with ground operations and other air resources.
2. Ground resources are not continuously monitoring and communicating on the tactical Ground-to-Air frequency.
3. Any arrival of air resources working in the same airspace without establishing communications.
4. Radio frequency overload or inattention makes communications difficult or ineffective.
5. Aircraft in the incident air space with inoperable radio(s).

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6. Air Tankers and Lead Planes do not have a clear frequency to conduct retardant drop communications.

B. Air Operations Communications Standard Orders.

1. Promote flight safety by practicing good radio frequency management and discipline.
2. Terminate operations where communications are unsafe, ineffective, or do not meet operational requirements.
3. Require continuous communications with ground operations and assigned air resources.
4. Establish communications procedures to ensure good coordination.

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CHAPTER 3 - FREQUENCIES.

I. VHF-AM. Use of frequencies in this band includes but is not limited to air-air tactics, and air-ground flight following, air-ground check-in at air tanker bases, etc. Use of these frequencies must fall within each's authorized use. Use of some frequencies requires coordination among units, between GACCs, and/or with NIRSC at NIFC.

A. Discrete VHF-AM Frequencies Assigned By NIRSC. Discrete frequencies are provided by the FAA (Seattle, Los Angeles-Palmdale) through the National Incident Support Radio Cache (NIRSC) at the National Interagency Fire Center (NIFC) in Boise, Idaho. The NIRSC obtains the frequencies and areas of clearance from the FAA. **(NOTE: CA, NM, and AZ are not included in this arrangement.)**

These discrete VHF-AM frequencies will no longer be designated specifically for one use (Air-to-Air or Air-to-Ground) but can be used for both Air-to-Air and Air-to-Ground.

1. Initial Attack. NIRSC will provide Geographic Area Coordination Centers (GACCs) with initial attack VHF-AM frequencies for their area, for the duration of the fire season. Appendix B contains frequency grids (maps showing areas of authorized use) for each Zone (state) within the Great Basin.

These pre-assigned frequencies are **not to be utilized** by Type 1 and 2 Incident Management Teams (see below).

2. All-Risk Incidents (Type 1 and 2 Teams). Additional frequencies for initial/extended attack and all risk incidents may be ordered from NIRSC by the GACC during periods of high fire activity.

B. National VHF-AM Frequencies. (See below.) There are six (6) national VHF-AM frequencies. The use of these frequencies is restricted to aviation operations only. The FCC through the FAA has designated their appropriate use in the aeronautical information manual (AIM Chapter 4).

122.925	123.050	122.850
122.975	123.075	123.025

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- C. National VHF-AM Air Tanker Base Frequency.** The national air-ground frequency for all Air Tanker Bases is **123.975**. In the Great Basin all large air tanker bases use this frequency to communicate with aircraft operating from their facility. (Note; Air Tanker Base facilities east of the Mississippi River will not use this frequency).
- D. Non-Fire Flights.** If VHF-AM frequencies are needed, use the unit's pre-assigned VHF-AM frequency. However, fire has priority use of these frequencies. If a discrete frequency is needed for non-fire use, use the same procedure as outlined above for ordering.
- E. Ordering Additional Frequencies.** Incidents may order additional frequencies via local or expanded dispatch, who relays order to the appropriate Great Basin Coordination Center. The Coordination Center shall relay the order to NICC. A separate A- number will be assigned on an Aircraft Resource Order for each frequency requested. The following information must be included:
- Use of the frequencies (air-to-air or air-to-ground)
 - Latitude and longitude of incident or air operations center point.

When no longer needed, frequencies shall be released by local units to the appropriate Great Basin Coordination Center, who releases it back to NICC.

- II. VHF-FM.** Frequencies in this band are used for air tactics operations, both air-to-air¹ and air-to-ground. See Appendix A for a combined list of VHF-AM and VHF-FM frequencies.

Communications with designated personnel will be on the assigned air-ground tactical frequency. Aerial supervisors and Incident Commanders will enforce radio and communications discipline.

Dispatchers must provide both the local unit's dispatch frequency (with tones as appropriate) as the first VHF-FM air-ground frequency in Block 11 of the Resource Order, with the second air-ground frequency provided in Block 11 as the incident's ground contact frequency.

¹Since VHF-AM frequencies are pre-assigned for air-air tactics use in the Great Basin, it is recommended that these VHF-FM frequencies be utilized only for backup air-ground frequencies during extended attack when the unit's primary air-ground frequency becomes overloaded.

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- A. Agency-Assigned Initial Attack Air-Ground Frequencies.** Zones or units within a zone may have an agency-assigned unit or zone air-ground frequency(s) that is used as the primary VHF-FM initial and extended attack air-to-ground frequency. Aerial supervisors and Incident Commanders must utilize this frequency to avoid congestion on the local unit's primary initial attack dispatch frequency.

Refer to Appendices A and B for listing of these frequencies. If interference (joint simultaneous use) occurs with a fire or unit in close proximity, then a national VHF-FM Frequency should be ordered (see below).

- B. National VHF-FM Frequencies.** There are five (5) national VHF-FM air-to-air and air-to-ground frequencies which are designated as Air Tactical frequencies for large incidents.

The five (5) frequencies are:

*	166.675	*	167.950
*	169.150	*	169.200
*	170.000		

- 1. Restrictions.** These frequencies are restricted to use West of the Mississippi River (95W). 170.000 cannot be used in the Columbia River Basin in Washington. In California, 166.675, 169.150 and 169.200 will be used as air-to-air only, and 170.000 and 167.950 are used as Air-to-Ground.
 - 2. Coordination Required.** Use of these frequencies shall be coordinated among the using unit, adjacent units (particularly those across Geographic Area boundaries), the Coordination Center, and NIRSC.
- C. Discrete VHF-FM Frequencies.** Discrete VHF-FM frequencies will be provided by the Washington Office USDA-USFS and USDI, through the National Incident Support Radio Cache (NIRSC), at the National Interagency Fire Center (NIFC), in Boise, Idaho. The NIRSC obtains the frequencies and areas of clearance from the appropriate Washington Office.

The discrete frequencies will no longer be designated specifically as air-to-air tactical or air-to-ground tactical. Discrete frequencies can be used for either use.

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1. **All-Risk Incidents.** The NIRSC will hold a pool of frequencies for the GACCs. Incidents will order a frequency(s) through the Resource Ordering process. The NIRSC will be contacted through this process and release, to the GACC, a frequency(s) which has been cleared for that particular area.

These frequencies must be formally released at the conclusion of the incident.

2. **Non-Fire Use.** The same procedure as outlined in Section II applies to this use.
3. **Smoke Jumper Operations.** 168.550 is being used as the primary frequency for air-to-ground operations between the spotter and the jumpers on the ground. If there is "silk in the air" contact the jump operation on this frequency.

- D. **Air Guard.**² Air Guard is defined as "emergency communications for aviation." The national, interagency Air Guard frequency is **168.625**. The Air Guard channel provides a continuous communications link to any aircraft and dispatch unit with Air Guard capabilities.

1. **Requirements.**

- All units dispatching aircraft, including dispatch centers and air tanker bases, shall have the capability of transmitting and receiving the interagency Air Guard frequency 168.625. Ground or ground-mobile transmitters on this frequency should be equipped with a CTCSS Encoder on 110.9 Hz.³
- All aircraft assigned to an incident must have a radio configuration that includes the interagency Air Guard frequency of 168.625.
- Continuous monitoring of the Air Guard frequency is required by both aircraft and dispatch.

²A Memorandum of Understanding (2/29/96) provides the Department of Agriculture and the Department of the Interior a common National Air Guard frequency, 168.625. A Radio Frequency Authorization (RFA) is required for fixed station installations

³California has a requirement for this because of interference from Mexico.

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2. **Limitations.** Use of this frequency is limited to:

- Emergency air-ground communications
- Emergency air-air communications
- Initial call, recall, and re-direction of aircraft when no other contact frequency is available
- Air Guard is not to be used for tactical communications, local dispatching, administrative, flight-following or logistical use, **unless it is the only way to communicate in order to identify another frequency for communications.**

E. **Air-to-Dispatch.**

1. **National Flight Following Frequency.** VHF-FM 168.650 has been assigned as the National Interagency Flight Following frequency. This frequency should be used for flight following and air-to-ground administrative radio traffic.⁴ ***It is NOT a TACTICAL Frequency.***
2. **Air-Dispatch Communications.** Communications between dispatch and aircraft will be on the local unit frequency assigned at the time of dispatch⁵ or as changed and relayed at the time of arrival. The national flight following frequency may be used when local unit VHF-FM channel is congested.

F. **Smoke Jumper VHF-FM Air-Ground Frequency.** VHF-FM Frequency **168.550.** has been assigned as a discrete frequency for use by smoke jumpers for internal communications on drop operations (personnel, cargo, etc.). Standard check-in, incident contact, and air-ground and air-air tactics as specified above shall be utilized.

Note that other special air operations (aerial ignition, explosives) may also utilize this frequency. Use for these operations should be coordinated to avoid interference with smoke jumper operations. Requests for use for special operations shall be transmitted via the Resource Ordering process.

⁴Note that not all dispatch units and fixed-wing bases in the Great Basin currently have this frequency capability.

⁵Dispatchers must provide the local unit frequency (with tones as appropriate) as the first air-ground frequency in Block 11 of the Resource Order. (The second air-ground frequency provided in Block 11 will be the incident's ground contact frequency.)

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- G. VHF-FM Ground-to-Ground Helibase or Air Tanker Base Ramp Operations.** Units may request the pre-assignment of a VHF-FM ground-to-ground helibase deck or air tanker base ramp (e.g., parking tender-to-pilot, hot loading) frequency. Refer to Appendices A and B for this frequency.
- H. Ordering VHF-FM and VHF-AM Frequencies.** Incidents may order national frequencies via local or expanded dispatch, who relays order to the appropriate Great Basin Coordination Center. The Coordination Center shall relay the order to NIRSC. A separate A- number will be assigned on an Aircraft Resource Order for each frequency requested. The following information must be included:
- Use of the frequencies (air-to-air or air-to-ground).
 - Latitude and longitude of incident or air operations center point.

When no longer needed, frequencies shall be released by local units to the appropriate Great Basin Coordination Center, who releases it back to NIRSC.

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CHAPTER 4 - REQUIRED AVIONICS.

I. Radio Characteristics. The following are generic requirements. Always refer to the contract for contract or CWN aircraft.

- Radios must be approved for use in aircraft.
- The aircraft should also have compatible connectors, plugs and antennas for each radio.
- One radio shall always be monitoring air guard.
- Radios should not scan.

II. Avionics Requirements.

A. Minimum Avionics Requirements (except Air Tactical Aircraft).

Smoke Jumper Aircraft		VHF-AM 720 Channel	VHF-FM programmable	Comments
	USFS Aircraft	2	2	
	BLM Aircraft	2	1	
Lead Plane		2	1	Aux FM capability
Air Tanker		2	1	Refer to contract
Helicopter	Agency-Owned	2	1	
	Contract & CWN	1	1	Refer to contract
Fixed Wing	Non-Tactical	1	0	

B. Air Tactical Aircraft. Aircraft are typed (Type 1-3) by avionics installed. A listing of aircraft and avionics-type category shall be furnished to the Great Basin Coordination Centers by May 1 annually. Types are:

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1. **Type 1 ATGS Aircraft.** Type 1 ATGS aircraft will have the following avionics capability:
 - Dual audio panel with 3rd rear seat position for trainee;
 - Two (2) 720-channel VHF-AM radios
 - Two (2) Multi-channel programmable FM radios capable of receiving both guard and operating frequency simultaneously in all three positions
 - Dual mounted broadband antennas
 - Intercom with switchable hot mike or VOX capability
 - Global Positioning System (GPS)

2. **Type 2 ATGS Aircraft.** Type 2 ATGS aircraft will have the following avionics capability:
 - Dual audio panel with 3rd rear seat position for trainee;
 - Two (2) 720-channel VHF-AM radios
 - One (1) Multi-channel programmable FM radios capable of receiving both guard and operating frequency simultaneously in all three positions
 - Provisions for an auxiliary VHF-FM radio
 - Dual mounted broadband antennas
 - Intercom with switchable hot mike or VOX capability
 - Global Positioning System (GPS)

3. **Type 3 ATGS Aircraft.** Type 3 ATGS aircraft will have the following avionics capability:
 - Two (2) 720-channel VHF-AM radios
 - Wiring harness for NIFC or commercial slip-in radio packages capable of receiving both guard and operating frequency simultaneously in two positions
 - Vendor installed FM handheld radio interface
 - Dual mounted broadband antennas
 - Global Positioning System (GPS)

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- C. **Military Aircraft.** Military aircraft assigned to an incident will usually meet only minimum agency communications requirements (must meet minimum communications requirements as outlined in Chapter 70 of the Military Use Handbook). This will require continuous monitoring of at least one preassigned agency frequency, plus one preassigned FAA frequency as a backup.

Current military communications does not include VHF-FM communications capability. In order to communicate through VHF-FM equipment, a cross-band link system will have to be installed. This can be obtained through the Resource Ordering process from the National Incident Support Radio Cache, at NIFC, in Boise, Idaho.

1. **MAFFS.** USDA - Forest Service and USDI Bureau of Land Management will provide a 9600 Channel FM radio. MAFFS come equipped with a VHF-AM radio.

During communications, use the large high visibility (Day-GLOW) number taped on the aircraft tail as a call sign when communicating with the aircraft (i.e., "MAFFS 2").

2. **Military Helitankers.** Will be equipped with a 9600 channel radio and VHF-AM capability. The air operations supervisor will recommend communications requirements.
3. **Military Helicopters.** Regular Army military helicopters do not have a VHF-FM radio. State Guard helicopters usually will have a VHF-FM radio. If no VHF-FM radio is available, a VHF-AM TOLC is required for these operations, or with portable VHF-AM radios or logistics radios cross-band linked to VHF-AM.

GREAT BASIN AVIATION COMMUNICATIONS PLAN

APPENDIX A

Nationally-Authorized Frequencies For Use By Great Basin

GREAT BASIN AVIATION COMMUNICATIONS PLAN

Table 1: Nationally-Authorized Frequencies					
<i>Frequency or Frequency Group</i>	<i>Use</i>	<i>A-G FW</i>	<i>A-G RW</i>	<i>A-A FW</i>	<i>A-A RW</i>
<i>VHF-FM FREQUENCIES</i>					
166.675; 167.950 169.150; 169.200; 170.000	Tactics ⁶	Yes	Yes	Yes	Yes
168.225	Nevada Air-Ground	Yes	Yes	No	No
168.625	Air Guard	Yes	Yes	Yes	Yes
168.650	National - Flight Follow Frequency <i>(Non-Tactical, Flight Follow Only)</i>				
168.550	Smoke Jumper Internal Use Special Ops (Heli-torch, etc.)	Yes	Yes	Yes	Yes
XXX.XXX ⁷	Helibase Deck: Pilot-Deck; Internal Deck Communications. Fixed Wing Base Ramp: Pilot-Ramp; Internal Ramp Communications	No	No	No	No
<i>VHF-AM FREQUENCIES</i>					
123.975	Air Tanker Base Call-In	Yes	Yes ⁸	No	No
VHF-AMs Assigned to Geographic Areas ⁹	Tactics	No	No	Yes	Yes
122.925	Government “All Call” ¹⁰	Yes	Yes	Yes	Yes
122.975, 123.025 122.850, 123.050 123.075	Various Uses - Refer to Aeronautical Information Manual - Chapter 4				

⁶ Since VHF-AM frequencies for air-to-air are available for use in the Great Basin, recommended use of these VHF-FM frequencies is for air-ground, not air-air tactics. In California, 166.675, 169.150 and 169.200 are used as air-to-air only, and 167.950 and 170.000 is used as air-to-ground. Use by Nevada of 166.675, 169.150, 169.200, and 170.000 must be coordinated with adjacent units within Nevada, in California, and with NIRSC.

⁷ Frequency assigned is specific to a helibase or an air tanker base.

⁸ Only for check-in communications when landing at air tanker base.

⁹ See Appendix B for Great Basin assigned frequencies

¹⁰ Not recommended for use due to “all call” nature of frequency (anyone in government can use)

GREAT BASIN AVIATION COMMUNICATIONS PLAN

APPENDIX B

WESTERN GREAT BASIN ZONE SUPPLEMENTAL AERIAL COMMUNICATIONS PLAN

GREAT BASIN AVIATION COMMUNICATIONS PLAN

Table 1: NIRSC-Assigned Nevada VHF-AM Air-Air Frequencies For 2001

DISPATCH CENTER	FREQUENCIES ASSIGNED
Battle Mountain District *	126.075
Sierra Front Interagency Dispatch Center(Minden) - SFIDC	120.975
Las Vegas Interagency Communication Center - LVICC	123.675
Ely Interagency Communication Center - EICC	128.425
Central Nevada Interagency Dispatch Center (Winnemucca) - CNIDC	127.225
Elko Interagency Dispatch Center - EIDC	128.225

* Dispatch service for BLM Battle Mountain Field Office is handled through Winnemucca - ***Central Nevada Interagency Dispatch Center (CNIDC)***

GREAT BASIN AVIATION COMMUNICATIONS PLAN

Figure 1: Map of Nevada Statewide Air-Air VHF-AM Frequencies

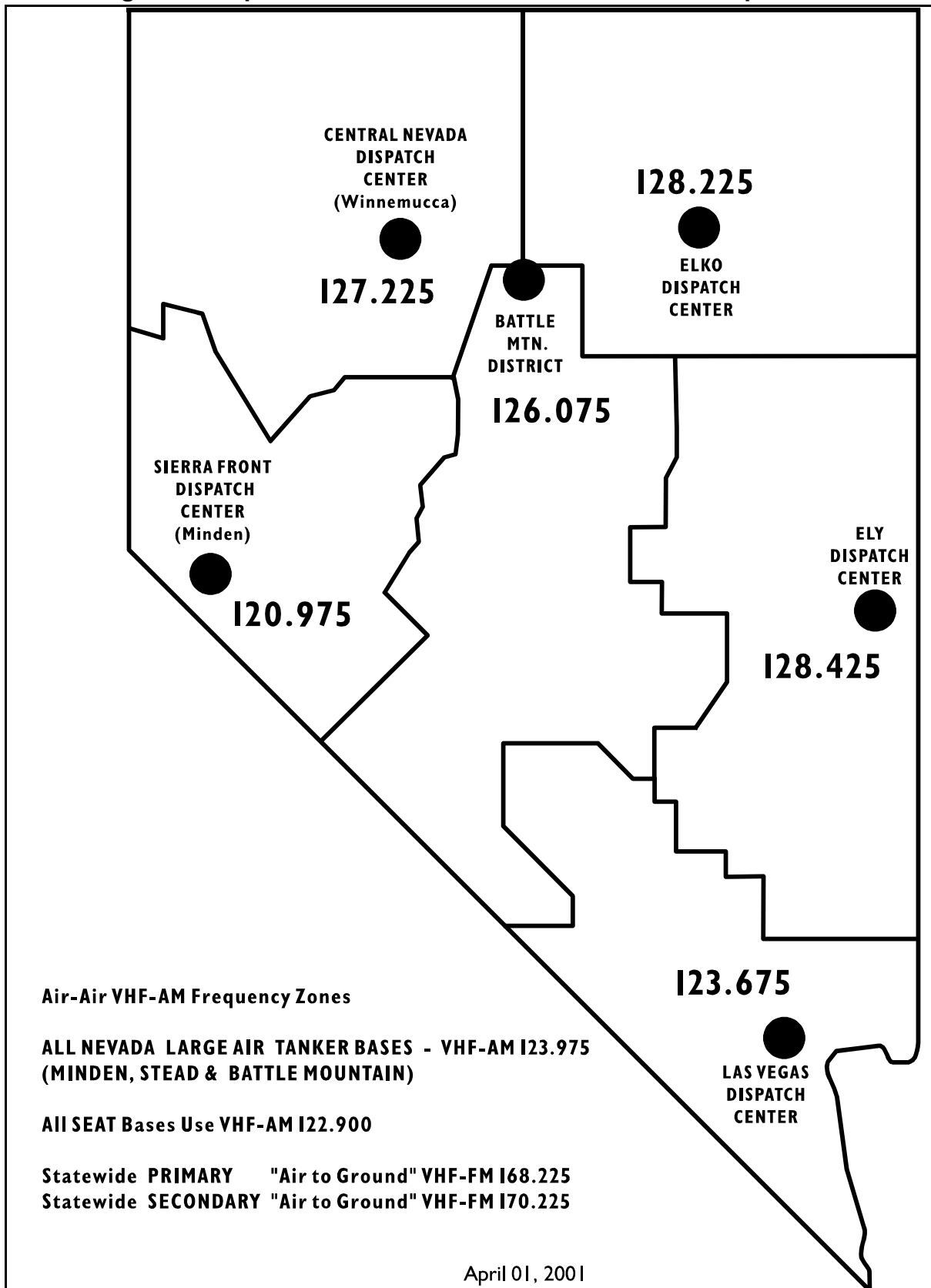


Table 2: Nevada Interagency VHF-FM Frequency Lists

<i>LOCATION</i>	<i>TX</i>	<i>RX</i>	<i>TONE</i>
SCENE OF ACTION (SOA) ¹¹	171.675	171.675	NA
SCENE OF ACTION REPEATER	168.225	171.675	NA
AIR-TO-GROUND (<i>PRIMARY STATEWIDE</i>)	168.225	168.225	NA
AIR-TO-GROUND (<i>SECONDARY STATEWIDE</i>)	170.225	170.225	NA
DISPATCH / AIRCRAFT FLIGHT FOLLOWING LINK	168.650	168.650	NA
SMOKE JUMPER INTERNAL FREQ AND SPECIAL OPS	168.550	168.550	NA
INTERAGENCY AIR GUARD	168.625	168.625	NA
GOVERNMENT COMMON (<i>USE #1</i>)	163.100	163.100	NA
GOVERNMENT COMMON (<i>USE #2</i>)	168.350	168.350	NA
AIR TANKER BASE CONTACT AIR-GROUND	123.975 AM	123.975 AM	NA
WINNEMUCCA BLM BASE STATION (<i>CNIDC</i>)	170.025	170.025	NA
WINNEMUCCA REPEATERS:			
GRANITE PEAK	168.375	170.025	114.8
BLUE LAKE			151.4
GERLACH.			173.8
STAR MOUNTAIN			186.2
CARSON CITY BLM BASE STATION (<i>MCCLELLAN</i>)	169.775	169.775	NA
CARSON CITY REPEATERS:			
FAIRVIEW PEAK	169.025	169.775	114.8
COREY PEAK			151.4
FORT SAGE			173.8
ELY BLM BASE STATION (<i>KIMBERLY</i>)	169.775	169.775	NA
ELY REPEATERS:			
BALD MOUNTAIN	169.025	169.775	114.8
KERNS MOUNTAIN			203.5
PROSPECT PEAK			186.2
NORTH MT. WILSON			151.4
NORTH MT. IRISH			173.8
CALIENTE BASE STATION (<i>ELLA MOUNTAIN</i>)	170.025	170.025	NA
SOUTH MT. WILSON	168.375	170.025	151.4
SOUTH MT. IRISH			173.8
ELKO BLM BASE STATION (<i>ELKO MOUNTAIN</i>)	169.400	169.400	NA
ELKO REPEATERS:			
KNOLL MOUNTAIN	168.525	169.400	114.8
SPRUCE MOUNTAIN			151.4
JACKS PEAK			173.8
MT. TENABO			186.2
PILOT PEAK			167.9
MIDAS			123.0
KERNS MOUNTAIN			203.5
WEATHER SERVICE (<i>ELY & WINNEMUCCA</i>)	162.400	162.400	NA
WEATHER SERVICE (<i>ELKO, RENO & LAS VEGAS</i>)	162.550	162.550	NA

¹¹ Scene-of-Action is line-of-sight frequency for ground-ground communications; if ground personnel are not on air-ground frequency, aircrews should try SOA.

Table 2 (Cont): Nevada Interagency VHF-FM Frequency Lists

<i>LOCATION</i>	<i>TX</i>	<i>RX</i>	<i>TO NE</i>
LAS VEGAS BLM BASE STATION (<i>POTOSI MTN.</i>)	169.400	169.400	NA
LAS VEGAS REPEATERS:			
XMAS TREE PASS	168.525	169.400	151.4
VIRGIN PEAK			173.8
HAYFORD PEAK			186.2
REDROCKS	168.225	171.675	114.8
BATTLE MTN BLM BASE STATION (<i>MT. LEWIS</i>)	171.725	171.725	NA
BATTLE MOUNTAIN REPEATERS: (<i>VIA CNIDC</i>)			
BARE MOUNTAIN	168.275	171.725	114.8
MT. CALLAGHAN			151.4
PROSPECT PEAK			203.5
TONOPAH BASE STATION (<i>BOOKER MTN.</i>)	171.725	171.725	NA
MOHAWK PEAK	168.275	171.725	186.2
SAWTOOTH MOUNTAIN			203.5
KAWICH PEAK			173.8
CEDAR CITY BLM (UTAH) BASE STATION	168.975	168.975	NA
RICHFIELD BLM (UTAH) BASE STATION	169.075	169.075	NA
SALT LAKE BLM (UTAH) BASE STATION	164.100	164.100	NA
SUSANVILLE BLM (CALIF) BASE STATION	166.4875	166.4875	NA
BISHOP BLM (CALIF) BASE STATION	166.4875	166.4875	
LAKEVIEW BLM (OREGON) BASE STATION	166.325	166.325	NA
VALE BLM (OREGON) BASE STATION	166.300	166.300	NA
BURNS BLM (OREGON) BASE STATION	166.350	166.350	NA
BOISE BLM (IDAHO) BASE STATION	163.9375	163.9375	NA
BURLEY BLM (IDAHO) BASE STATION	163.8625	163.8625	NA
TOIYABE N.F. BASE STATION	169.875	169.875	NA
TOIYABE N.F. REPEATERS:			
MEAN PEAK / MT CHARLESTON / BUNKER HILL	170.475	169.875	156.7
SLIDE (S. RENO) / MAHOGANY			110.9
HAWKINS / AUSTIN MOUNTAIN			131.8
PEAVINE(N. RENO) / MASONIC / POTOSI (LAS VEGAS)			123.0
BALD MOUNTAIN (EUREKA AREA)			123.0
RAWE PEAK / MT. BROCK			136.5
LOBDELL / ANGEL PEAK			146.2
COREY PEAK / JEFFERSON			167.9
LEVIATHAN	169.975	171.425	103.5
TOIYABE N.F. CREW NET	168.200	168.200	NA
LAKE TAHOE BASIN MGMT. UNIT (CA) BASE	172.375	172.375	NA
TAHOE N.F. (CALIFORNIA) BASE STATION	168.775	168.775	NA
PLUMAS N.F. (CALIFORNIA) BASE STATION	170.550	170.550	NA
STANISLAUS N.F. (CALIFORNIA) BASE STATION	168.750	168.750	NA
ELDORADO N.F.(CALIFORNIA) BASE STATION	171.525	171.525	NA

Table 2 (Cont): Nevada Interagency VHF-FM Frequency Lists

<i>LOCATION</i>	<i>TX</i>	<i>RX</i>	<i>TONE</i>
HUMBOLDT N.F. BASE STATION	171.475	171.475	NA
HUMBOLDT N.F. REPEATERS	172.225	171.475	NA
NEVADA DIVISION OF FORESTRY BASE STATION	158.895	158.895	NA
NDF REPEATERS:			
WINNEMUCCA MTN / CAVE MTN	159.450	158.895	088.5
ROCKY MOUNTAIN			094.8
KIMBERLY MOUNTAIN			100.0
McCLELLAN / PENNSYLVANIA / ALAMO			107.2
PEAVINE / KNOLL / HIGHLAND			118.8
SNOW VALLEY			127.3
ELKO - CAVE MTN. VIA ELY			127.3
WINNEMUCCA MTN. VIA WINNEMUCCA			127.3
PINE NUT / MT. TENABO			136.5
EAGLE / SPRUCE MTN / DEER MTN			146.2
NDF TACTICAL (<i>RED NET #1</i>)	159.345	159.345	NA
NDF TCTICAL (<i>RED NET #2</i>)	158.865	158.865	NA
NEVADA EMS TACTICAL1 (<i>WHITE FIRE #1</i>)	154.280	154.280	NA
NEVADA EMS TACTICAL2 (<i>WHITE FIRE #2</i>)	154.265	154.265	NA
NEVADA EMSTACTICAL3 (<i>WHITE FIRE #3</i>)	154.295	154.295	NA
TRUCKEE MEADOWS FIRE DPEARTMENT (<i>MAIN</i>)	158.745	158.745	NA
TRUCKEE MEADOWS FIRE DPEARTMENT (<i>TAC #1</i>)	158.880	158.880	NA
TRUCKEE MEADOWS FIRE DPEARTMENT (<i>TAC #2</i>)	158.940	158.940	NA
NEVADA STATE PARKS	151.340	151.340	NA
<i>SCAN ONLY - UNTIL ASSIGNED BY LOCAL DISPATCH FOR TACTICAL USE</i>			
CARSON CITY FIRE DEPARTMENT	154.430	154.430	NA
TRUCKEE MEADOWS FIRE DEPARTMENT	158.475	158.475	NA
DOUGLAS COUNTY FIRE DEPARTMENT	155.085	155.085	NA
LYON COUNTY FIRE DEPARTMENT	155.100	155.100	NA
ALPINE COUNTY FIRE DEPARTMENT	153.800	153.800	NA
LANDER COUNTY FIRE DEPARTMENT	155.895	155.895	NA
WINNEMUCCA RURAL FIRE DEPARTMENT	153.770	153.770	NA
ELKO FIRE DEPARTMENT	154.130	154.130	NA
CARLIN FIRE DEPARTMENT	154.145	154.145	NA
ELY FIRE DEPARTMENT	154.400	154.400	NA
EUREKA FIRE DEPARTMENT	154.625	154.625	NA
WELLS FIRE DEPARTMENT	154.430	154.430	NA
CLARK COUNTY FIRE DEPARTMENT (<i>LAS VEGAS</i>)	154.205	154.205	NA
STOREY COUNTY FIRE DEPARTMENT	154.385	154.385	NA
NATIONAL PARK SERVICE (<i>GREAT BASIN NP</i>)	164.800	164.800	NA
NATIONAL PARK SERVICE (<i>LAKE MEAD NRA</i>)	166.300	166.300	NA
NATIONAL PARK SERVCE (<i>DEATH VALLEY NP</i>)	170.100	170.100	NA

Figure 2: Map of NDF VHF-FM Base Stations and Repeaters in Nevada

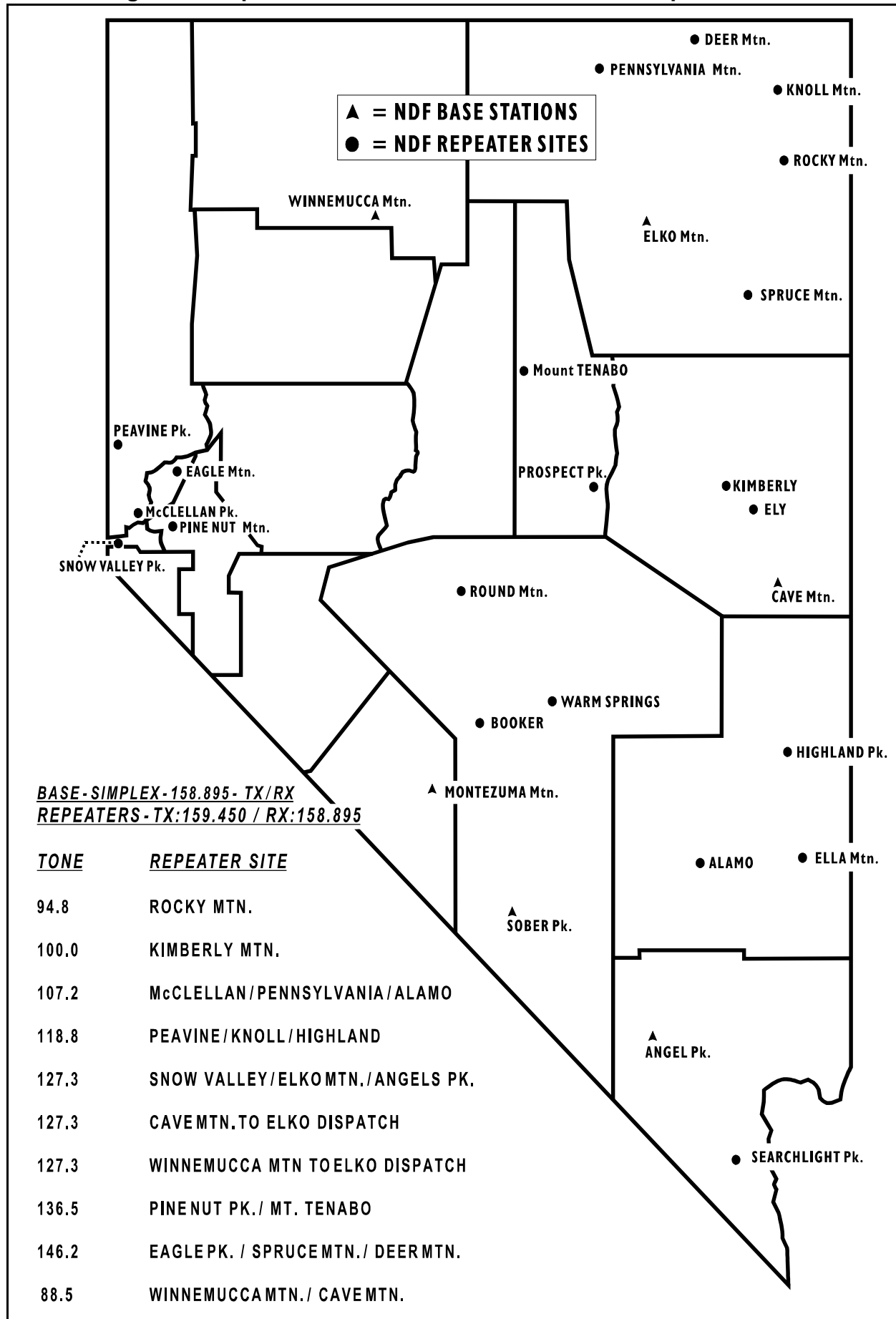


Figure 3: Map of BLM VHF-FM Base Stations and Repeaters in Nevada

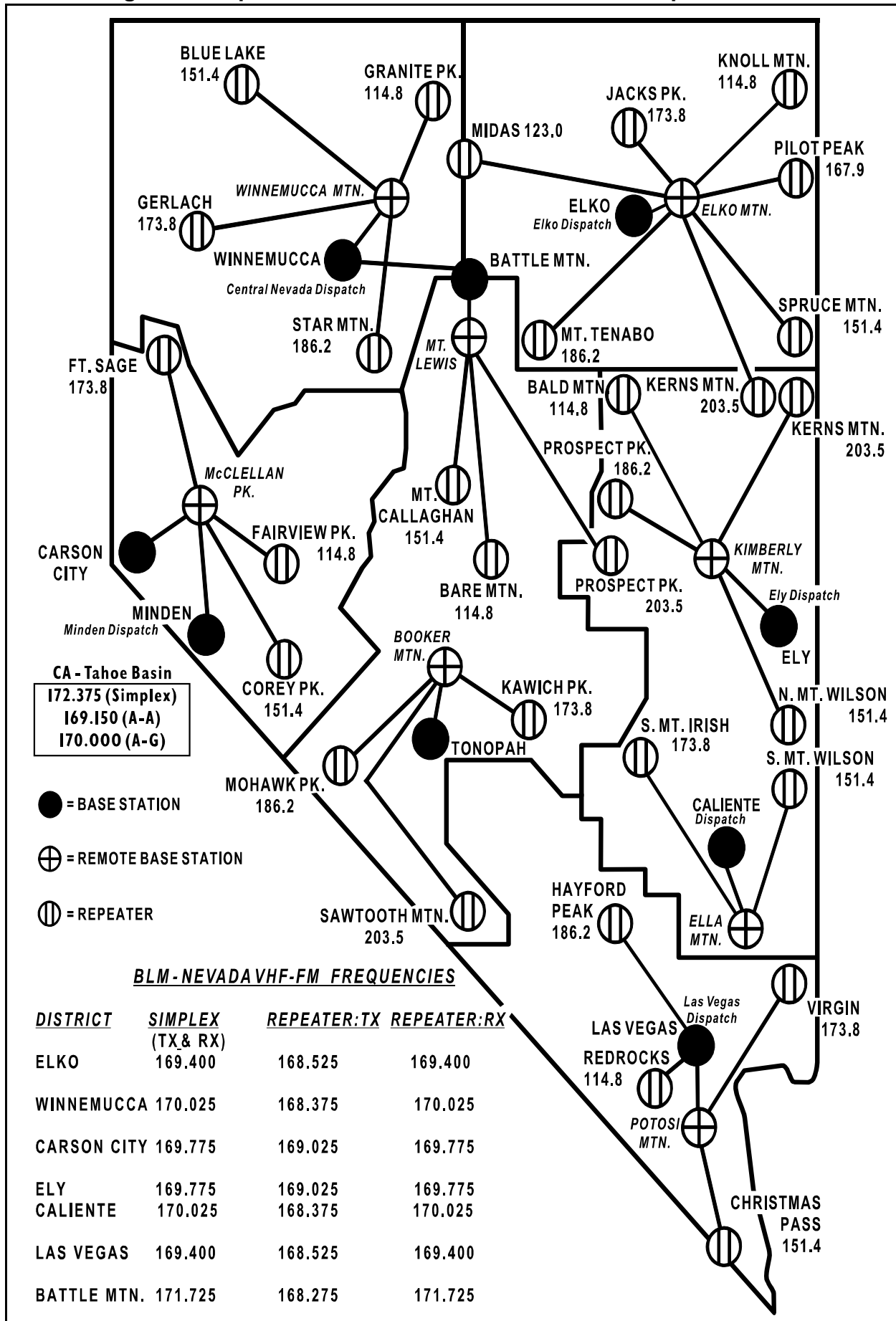


Figure 4: Map of Toiyabe NF VHF-FM Base Stations and Repeaters in Nevada

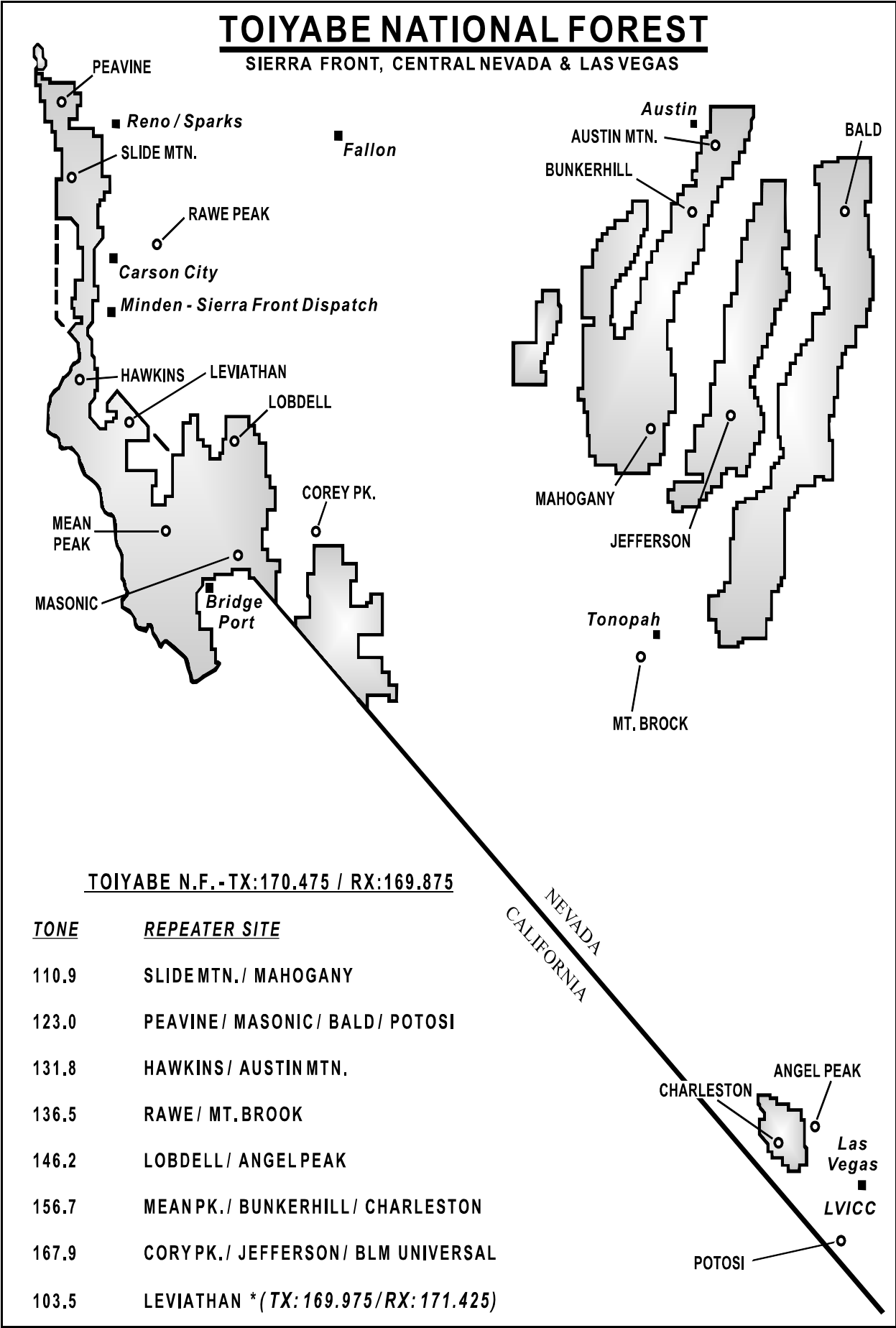


Figure 5: Map of Humboldt N.F. VHF-FM Base Stations and Repeaters in Nevada

